CLAIMS

1. A communication apparatus which has IP (Internet Protocol) communication means and transmits/receives communication data to/from a

5   communication partner station discriminated by a telephone number, comprising:

IP address obtaining means for obtaining an IP address of the communication partner station from a predetermined server based on the telephone number

10   of the communication partner station; and

control means for transmitting/receiving on an IP network the communication data to/from the communication partner station by using the obtained IP address of the communication partner station,

15   based on a predetermined data transmission/reception protocol.

2. A communication apparatus according to Claim 1, wherein the predetermined server is an SIP (Session Initiation Protocol) proxy server, and said

20   IP address obtaining means obtains the IP address of the communication partner station from said SIP proxy server based on an SIP protocol.

3. A communication apparatus according to Claim 1, further comprising:

25   facsimile signal communication means for performing communication of a facsimile signal; and

VoIP (Voice over Internet Protocol)

communication means for transmitting/receiving a frame obtained by digitally encoding the facsimile signal output from said facsimile signal communication means and adding the IP address.

5   4.   A communication apparatus according to Claim 3, wherein facsimile communication is performed with the communication partner station through an ADSL (Asymmetric Digital Subscriber Line) gateway for connecting bands obtained by frequency-

10   dividing ADSL with a splitter respectively to the IP network and a line switching network, the IP network, and a facsimile gateway for receiving the digitally converted facsimile signal from the IP network and transmitting the received signal to the

15   communication partner station through the line switching network.

          5.   A communication apparatus according to Claim 3, wherein

          said IP address obtaining means judges by

20   analyzing the telephone number of the communication partner whether or not the communication with the communication partner station through a VoIP transmission path is possible, and

          when it is judged that the communication with

25   the communication partner station through the VoIP transmission path is possible, said IP address obtaining means attempts to obtain the IP address of

the communication partner station from the predetermined server, and said control means transmits/receives on the IP network the communication data to/from the communication partner

5   station by using the obtained IP address of the communication partner station, based on the predetermined data transmission/reception protocol.

6.   A communication apparatus according to Claim 1, wherein it is controlled by said control

10 means to obtain the IP address of the communication partner station from the predetermined server based on the telephone number of the communication partner station by using a predetermined UDP (User Datagram Protocol), and further transmit/receive the

15 communication data to/from the communication partner station by using the obtained IP address of the communication partner station on the basis of a predetermined TCP (Transmission Control Protocol).

7.   A communication apparatus according to

20 Claim 3, further comprising data communication means for performing the data communication by using a data transmission/reception protocol which is not a VoIP procedure signal used by said VoIP communication means and a facsimile procedure signal

25 used by said facsimile signal communication means, wherein said control means performs image communication by selectively using said VoIP

communication means and said data communication means.

8. A communication apparatus according to Claim 3, wherein said VoIP communication means is a
5 VoIP codec for converting an analog voice signal into a digital signal.

9. A communication system which includes a communication apparatus having IP (Internet Protocol) communication means and
10 transmitting/receiving communication data to/from a communication partner station discriminated by a telephone number, comprising:

IP address obtaining means for obtaining an IP address of the communication partner station from a
15 predetermined server based on the telephone number of the communication partner station; and

control means for transmitting/receiving on an IP network the communication data to/from the communication partner station by using the obtained
20 IP address of the communication partner station, based on a predetermined data transmission/reception protocol,

wherein the communication partner station is a facsimile gateway, and the facsimile gateway
25 transfers image data received from said communication apparatus according to a non-facsimile procedure to a destination communication apparatus

according to a facsimile procedure.

10. A control method of a communication
apparatus having an IP communication means and
transmitting/receiving communication data to/from a

5   communication partner station discriminated by a
telephone number, said method comprising:

an IP address obtaining step of obtaining an IP
address of the communication partner station from a
predetermined server based on the telephone number

10   of the communication partner station; and

a control step of transmitting/receiving on an
IP network the communication data to/from the
communication partner station by using the obtained
IP address of the communication partner station,

15   based on a predetermined data transmission/reception
protocol.

11. A control method according to Claim 10,
wherein the predetermined server is an SIP proxy
server, and the IP address of the communication

20   partner station is obtained from the SIP proxy
server based on an SIP protocol.

12. A control method according to Claim 10,
further comprising:

a facsimile signal communication step of

25   performing communication of a facsimile signal; and

a VoIP communication step of
transmitting/receiving a frame obtained by digitally

encoding the facsimile signal output in said
facsimile signal communication step and adding the
IP address.

    13. A control method according to Claim 12,
5 wherein the communication apparatus performs
facsimile communication with the communication
partner station through an ADSL gateway for
connecting bands obtained by frequency-dividing ADSL
with a splitter respectively to the IP network and a
10 line switching network, the IP network, and a
facsimile gateway for receiving the digitally
converted facsimile signal from the IP network and
transmitting the received signal to the
communication partner station through the line
15 switching network.

    14. A control method according to Claim 12,
wherein

    it is judged in said IP address obtaining step
by analyzing the telephone number of the
20 communication partner whether or not the
communication with the communication partner station
through a VoIP transmission path is possible, and

    when it is judged that the communication with
the communication partner station through the VoIP
25 transmission path is possible, said IP address
obtaining step attempts to obtain the IP address of
the communication partner station from the

predetermined server, and said control step
transmits/receives on the IP network the
communication data to/from the communication partner
station by using the obtained IP address of the

5 communication partner station, based on the
predetermined data transmission/reception protocol.

15. A control method according to Claim 10,
wherein it is controlled in said control step to
obtain the IP address of the communication partner

10 station from the predetermined server based on the
telephone number of the communication partner
station by using a predetermined UDP, and further
transmit/receive the communication data to/from the
communication partner station by using the obtained

15 IP address of the communication partner station on
the basis of a predetermined TCP.

16. A control method according to Claim 12,
further comprising a data communication step of
performing the data communication by using a data

20 transmission/reception protocol which is not a VoIP
procedure signal used in said VoIP communication
step and a facsimile procedure signal used in said
facsimile signal communication step,

wherein said control step performs image

25 communication by selectively using said VoIP
communication step and said data communication step.

17. A control method according to Claim 12,

wherein said VoIP communication step uses a VoIP codec for converting an analog voice signal into a digital signal.

18. A control method according to Claim 10,
5 wherein the communication partner station is a facsimile gateway, and the facsimile gateway transfers image data received from the communication apparatus according to a non-facsimile procedure to a destination communication apparatus according to a
10 facsimile procedure.

19. A control program for a communication apparatus having an IP communication means and transmitting/receiving communication data to/from a communication partner station discriminated by a
15 telephone number, said method comprising:

an IP address obtaining step of obtaining an IP address of the communication partner station from a predetermined server based on the telephone number of the communication partner station; and

20 a control step of transmitting/receiving on an IP network the communication data to/from the communication partner station by using the obtained IP address of the communication partner station, based on a predetermined data transmission/reception
25 protocol.

20. A control program according to Claim 19, wherein the predetermined server is an SIP proxy

server, and the IP address of the communication
partner station is obtained from the SIP proxy
server based on an SIP protocol.

21. A control program according to Claim 19,
5   further comprising:

a facsimile signal communication step of
performing communication of a facsimile signal; and

a VoIP communication step of
transmitting/receiving a frame obtained by digitally
10 encoding the facsimile signal output in said
facsimile signal communication step and adding the
IP address.

22. A control program according to Claim 21,
wherein the communication apparatus performs
15 facsimile communication with the communication
partner station through an ADSL gateway for
connecting bands obtained by frequency-dividing ADSL
with a splitter respectively to the IP network and a
line switching network, the IP network, and a
20 facsimile gateway for receiving the digitally
converted facsimile signal from the IP network and
transmitting the received signal to the
communication partner station through the line
switching network.

25   23. A control program according to Claim 21,
wherein

it is judged in said IP address obtaining step

by analyzing the telephone number of the
communication partner whether or not the
communication with the communication partner station
through a VoIP transmission path is possible, and

5   when it is judged that the communication with
the communication partner station through the VoIP
transmission path is possible, said IP address
obtaining step attempts to obtain the IP address of
the communication partner station from the

10   predetermined server, and said control step
transmits/receives on the IP network the
communication data to/from the communication partner
station by using the obtained IP address of the
communication partner station, based on the

15   predetermined data transmission/reception protocol.

24.   A control program according to Claim 21,
wherein it is controlled in said control step to
obtain the IP address of the communication partner
station from the predetermined server based on the

20   telephone number of the communication partner
station by using a predetermined UDP, and further
transmit/receive the communication data to/from the
communication partner station by using the obtained
IP address of the communication partner station on

25   the basis of a predetermined TCP.

25.   A control program according to Claim 21,
further comprising a data communication step of

performing the data communication by using a data transmission/reception protocol which is not a VoIP procedure signal used in said VoIP communication step and a facsimile procedure signal used in said

5 facsimile signal communication step,

wherein said control step performs image communication by selectively using said VoIP communication step and said data communication step.

26. A control program according to Claim 21,

10 wherein said VoIP communication step uses a VoIP codec for converting an analog voice signal into a digital signal.

27. A gateway apparatus which includes IP communication means, transmits/receives

15 communication data to/from a first partner station, and transmits/receives communication data to/from a second partner station according to a facsimile procedure, comprising:

obtaining means for obtaining a telephone

20 number of the second partner station or an IP address of the first partner station on the basis of an SIP; and

control means for connecting, by using the obtained telephone number of the second partner

25 station or the obtained IP address of the first partner station, the corresponding partner station, and transmitting/receiving the communication data

to/from the corresponding partner station on the basis of a facsimile protocol.

28. A control method of a gateway apparatus including an IP communication means,

5   transmitting/receiving communication data to/from a first partner station by using the IP communication means, and transmitting/receiving communication data to/from a second partner station according to a facsimile procedure by using the IP communication

10   means, said method comprising:

an obtaining step of obtaining a telephone number of the second partner station or an IP address of the first partner station on the basis of an SIP; and

15   a control step of connecting, by using the telephone number of the second partner station or the IP address of the first partner station obtained in said obtaining step, the corresponding partner station, and transmitting/receiving the

20   communication data to/from the corresponding partner station on the basis of a facsimile protocol.

29. A control program of a gateway apparatus including an IP communication means, transmitting/receiving communication data to/from a

25   first partner station by using the IP communication means, and transmitting/receiving communication data to/from a second partner station according to a

facsimile procedure by using the IP communication means, said program consisting of:

an obtaining step of obtaining a telephone number of the second partner station or an IP

5   address of the first partner station on the basis of an SIP; and

a control step of connecting, by using the telephone number of the second partner station or the IP address of the first partner station obtained

10   in said obtaining step, the corresponding partner station, and transmitting/receiving the communication data to/from the corresponding partner station on the basis of a facsimile protocol.

30.   A communication method of, by using an IP

15   communication means, transmitting/receiving communication data to/from a first partner station, and transmitting/receiving communication data to/from a second partner station according to a facsimile procedure, said method comprising:

20   an obtaining step of obtaining a telephone number of the second partner station or an IP address of the first partner station on the basis of an SIP; and

a control step of connecting, by using the

25   telephone number of the second partner station or the IP address of the first partner station obtained in said obtaining step, the corresponding partner

station, and transmitting/receiving the

communication data to/from the corresponding partner

station on the basis of a facsimile protocol.